RS - INT
REGENERATION
Planting
Fp-9b

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MEMORANDUM OF PROCEDURE
AND
FINAL REPORT

The Effect of Different Degrees of Root Pruning Upon the Survival and Growth of Three Grades of Ponderosa Pine Planting Stock in Central Idaho - 1938-39

This experiment was abandoned before it was fully established and before it yielded any usable results. There is little value in describing it in detail, but a brief record will be made to indicate its place in the series of root pruning tests and to mention some features of the plan not incorporated in other tests.

The general purpose of the study is indicated in the title. The factors or variables included in the original plan by T. E. Maki are as follows:

1. Length of roots on 3-0 Bannock Creek planting stock:

    a. 15 inches
    b. 12 "
    c. 9 "
    d. 6 "

2. Grade of stock: 1, 2, and 3.

3. Season of planting: a. Fall, 1938; b. Spring 1939.

4. Depth of planting hole: a. Deep (15 inches); b. Shallow (6 inches).

5. Aspect: a. Northerly; b. Southerly.

The plan provided for planting 4 plots, 2 on each aspect; 12 rows per plot per season; 20 seedlings per row, of which 10 were to be planted in deep holes and 10 in shallow holes.

A note or two on details of procedure distinctive to this study may be mentioned. Grading of stock was done by throwing out the poorest or distinctly underdeveloped seedlings (generally about 10 percent of total) and sorting the remainder into the best one-third, medium one-third, and poorest one-third, on the basis of size and apparent thrift of tops and roots and the top-root ratio. After grading, root pruning was done by clipping off the roots to designated lengths, with random-mechanical allotment of seedlings to root lengths. The seedlings had been lifted from nursery to retain approximately 15-inch roots.

The depth-of-hole variable may be subject to question. It seemed desirable to incorporate this in the study in order to avoid confounding depth of hole and length of roots, as would have been the case had 6-inch roots been planted only in 6-inch holes, 15-inch roots in 15-inch holes, etc. With the design used it should have been possible to segregate to some extent effects of root length and of hole depth, but it did involve the usually objectionable practice of doubling up long roots in shallow holes. Holes were dug with a baby shovel.

The first plantings were made in October 1938 as scheduled except that only 3 plots were planted: a south slope in the Pine Creek burn of 1933, a north slope in the Elk Creek burn of 1934, and a south slope in the West Bannock Creek burn of 1937, (a total of 720 seedlings). No plantings were made in the spring of 1939 (for reasons unknown, probably the poor results from fall plantings, possibly combined with lack of personnel or question as to value of experiment as planned).

Inspection of the fall plantings on May 22 and May 24, 1939 showed heavy losses in nearly all rows on the Pine Creek plot and fair survival but with many "doubtful" seedlings on the other two plots. These data on winter mortality have not been compiled as they apparently and logically show no relation to the factors under study. The study plots were abandoned and the stencilled stakes were used on different plots in 1939-40 in the revised study designated Fp-9.

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